

# **NOTICE**

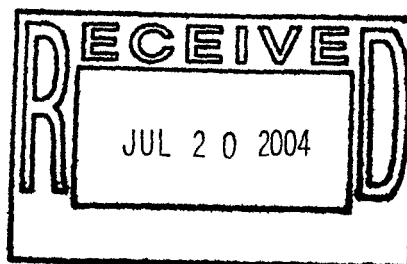
**All drawings located at the end of the document.**

**Environmental Restoration  
RFCA Standard Operating Protocol  
for Routine Soil Remediation  
FY04 Notification #04-04  
IHSS Group 700-3**

Approval received from the Colorado Department of Public Health and Environment

July 9, 2004

Approval letter is contained in the Administrative Record



July 2004

ADMIN RECORD

IA-A-002216

1/18

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## ACRONYMS

AL	action level
bgs	below ground surface
BMP	best management practices
CDPHE	Colorado Department of Public Health and Environment
COC	contaminant of concern
cy	cubic yard
D&D	Decontamination and Decommissioning
DOE	U S Department of Energy
EDDIE	Environmental Data Dynamic Information Exchange
EPA	Environmental Protection Agency
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation
ft	foot
HRC®	Hydrogen Release Compound®
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
IM/IRA	Interim Measure/Interim Remedial Action
MDL	method detection limit
nCi/g	nanocuries per gram
NA	not applicable
NFAA	No Further Accelerated Action
OPWL	Original Process Waste Lines
PAC	Potential Area of Concern
PCB	polychlorinated biphenyl
pCi/L	picocurie per liter
PDF	portable document format
POC	Point of Compliance
POE	Point of Evaluation
RAO	remedial action objectives
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RL	reporting limit
RSOP	RFCA Standard Operating Protocol
SAP	sampling and analysis plan
SSRS	Subsurface Soil Risk Screen
SVOC	semivolatile organic compounds
UBC	Under Building Contamination
VOC	volatile organic compound
WRW	wildlife refuge worker

## **1.0 INTRODUCTION**

This document provides notice of the intent to conduct accelerated actions on sites within Individual Hazardous Substance Site (IHSS) Group 700-3 in the Rocky Flats Environmental Technology Site (RFETS) Industrial Area (IA) (Figure 1). The purpose of this Notification is to invoke the Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) (DOE 2003).

Soil with contaminant concentrations greater than the RFCA wildlife refuge worker (WRW) action levels (ALs), or as indicated by the Subsurface Soil Risk Screen (SSRS), and associated debris will be removed in accordance with RFCA (DOE et al 2003) and the ER RSOP (DOE 2003). Activities specified in the ER RSOP are not reiterated here, however, deviations from the ER RSOP are included where appropriate.

## **2.0 IHSS GROUP 700-3**

IHSS Group 700-3 accelerated action sites are shown on Figure 2. Table 1 presents the contaminants of concern (COCs), media, and estimated soil removal or status of each site where accelerated action is currently planned or may be conducted in the future. Accelerated actions are currently planned at the following sites:

- Under Building Contamination (UBC) Site 776 (referred to as UBC 776) – Room 158 Pipe Chase
- IHSS 700-118 1 – Solvent Spills West of Building 730,
- IHSS 700-132 – Radioactive Site 700 Area, Site #4 (Tanks T-9 and T-10), and
- IHSS 000-121 – Original Process Waste Lines (OPWL) Pipe P-30

It is estimated that approximately 728 cubic yards (cy) of soil, piping, and concrete will be removed from these sites and disposed of offsite. Additional accelerated actions may be conducted in the future at other sites in the IHSS Group 700-3 if accelerated action characterization sampling results indicate such actions are warranted. A Regulatory Contact Record will document additional remediation areas.

### **2.1 Contaminants of Concern**

The COCs for each site located in IHSS Group 700-3 are listed in Table 1, and were determined based on process knowledge, pre-accelerated action data, and recently collected accelerated action data. Figure 3 shows pre-accelerated action data greater than background concentrations (means plus two standard deviations) or the method detection limits (MDLs). Accelerated action characterization data greater than background concentrations (means plus two standard deviations) or reporting limits (RLs), are presented on Figures 4 and 5.

**Table 1**  
**Proposed Accelerated Action Sites for IHSS Group 700-3**

UBC/IHSS/ PAC	Site Name	COCs	Contaminated Media	Soil Removal Volume (Estimated)
UBC 701	Waste Treatment Research and Development	Radionuclides, Metals, VOCs	Surface and subsurface soil	Characterization pending
UBC 776	Original Plutonium Foundry Room 158 Pipe Chase	Radionuclides, Metals, VOCs	Piping, concrete and subsurface soil	111 cy <sup>a</sup>
UBC 777	General Plutonium Research and Development	Radionuclides, Metals, VOCs	Surface and subsurface soil	Characterization pending
UBC 778	Plant Laundry Facility	Radionuclides, Metals, VOCs	Surface and subsurface soil	Characterization pending
IHSS 700-118 1	Solvent Spills West of Building 730	VOCs	Subsurface soil	53 cy <sup>b</sup>
IHSS 700-118 2	Solvent Spills North of Building 707	Radionuclides, VOCs	Surface and subsurface soil	Characterization pending
IHSS 700-131	Radioactive Site 700 Area No 1	Radionuclides, Metals, VOCs, SVOCs	Surface and subsurface soil	Characterization pending
IHSS 700-132	Radioactive Site 700 Area Site #4 (Tanks T-9 and T-10)	Radionuclides, Metals, VOCs	Tanks, piping, concrete soil	Tanks T-9 and T-10
IHSS 700-144(N)	Sewer Line Overflow	Radionuclides, Metals, VOCs, SVOCs	Surface and subsurface soil	Characterization pending
IHSS 700-144(S)	Sewer Line Overflow	NA	NFAA	No additional characterization required
IHSS 700-150 2(S)	Radioactive Site West of Buildings 771/776	Radionuclides, PCBs, VOCs	Surface and subsurface soil	Characterization pending
IHSS 700-150 4	Radioactive Site Northwest of Building 750	NA	NFAA	No additional characterization required
IHSS 700-150 7	Radioactive Site South of Building 776	Radionuclides	Surface and subsurface soil	Characterization pending
IHSS 000-121	OPWL Pipe P-30	Radionuclides, Metals, VOCs, SVOCs, Nitrite	Piping, concrete, and subsurface soil	83 cy <sup>a</sup>
IHSS 000 -121	Tank 18 - Concrete Laundry Waste Lift Sump	Radionuclides, Metals, VOCs	Surface and subsurface soil	Characterization pending
PAC 700-1100	French Drain North of Buildings 776/777	Radionuclides, Metals, VOCs, SVOCs	Surface and subsurface soil	Characterization pending
PAC 700-1116	Transformer Leak South of Building 776	Radionuclides, Metals, VOCs, SVOCs	Surface and subsurface soil	Characterization pending

a - Based on removing soil and debris to a depth of 3 feet (ft) below ground surface (bgs)

b - Based on removing soil and debris to a depth of 1 ft below Tanks T-9 and T-10

NA - Not applicable

NFAA - No further accelerated action

PAC - Potential Area of Concern

PCB - Polychlorinated biphenyl

SVOC - semi-volatile organic compound

VOC - volatile organic compound

THIS TARGET SHEET REPRESENTS AN  
OVER-SIZED MAP / PLATE FOR THIS DOCUMENT:  
(Ref: 04-RF-00754, JLB-065-04)

**Environmental Restoration RFCA  
Standard Operating Protocol for  
Routine Soil Remediation FY04  
Notification 04-04 IHSS Group 700-3**

**July 2004**

**Figure 4:**

**UBC 776/777 Characterization Data  
Greater Than Background or RLs**

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**July 2004**

**CERCLA Administrative Record Document, IA-A-002216**

**U S DEPARTEMENT OF ENERGY  
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**GOLDEN, COLORADO**

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THIS TARGET SHEET REPRESENTS AN  
OVER-SIZED MAP / PLATE FOR THIS DOCUMENT:  
(Ref: 04-RF-00754; JLB-065-04)

**Environmental Restoration RFCA  
Standard Operating Protocol for  
Routine Soil Remediation FY04  
Notification 04-04 IHSS Group 700-3**

**July 2004**

**Figure 5:**

**UBC 701, UBC 708, and IHSS 000-121  
Characterization Data Greater Than  
Background or RLs**

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**July 2004**

**CERCLA Administrative Record Document, IA-A-002216**

**U S DEPARTEMENT OF ENERGY  
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**GOLDEN, COLORADO**



## **2.2 Project Conditions**

This section summarizes project conditions at the IHSS Group 700-3 sites where accelerated action is currently planned as listed in Section 2.0. Figure 2 shows where the sites are located. Additional accelerated actions may be conducted at other sites in the IHSS Group 700-3, if characterization sampling results indicate such actions are warranted.

### **2.2.1 UBC 776 – Room 158 Pipe Chase**

The Room 158 Pipe Chase is situated within the open crawl space located under Building 776 Room 158. This open crawl space extends to a depth of approximately 8 ft below the building's concrete slab floor, and piping is situated approximately 3 ft above the dirt floor bottom of the crawl space or 5 ft below the concrete slab floor. Soil sampling and screening analyses performed during the Buildings 776/777 Decontamination and Decommissioning (D&D) Project indicated plutonium-239/240 activities were present at levels up to 27.55 nanocuries per gram (nCi/g). ER soil characterization did not indicate that radionuclides were present at activities greater than WRW ALs (Figure 4).

### **2.2.2 IHSS 700-118.1 – Solvent Spills West of Building 730**

The site is the former location of a 5,000-gallon underground carbon tetrachloride storage tank. According to the Historical Release Report (HRR) (DOE 1992), since the late 1960's several spills of trichloroethylene and carbon tetrachloride have occurred in the vicinity of the tank. In addition, a 100 to 200 gallon spill of trichloroethylene was reported to have occurred north of Building 776 prior to 1970. Cleanup of the spill was not documented, and the HRR (DOE 1992) states that the spill was actually carbon tetrachloride rather than trichloroethylene. Historical data indicate carbon tetrachloride, methylene chloride, and chloroform were detected at concentrations greater than their corresponding WRW ALs in soil samples collected in and around IHSS 700-118.1 (Figure 3).

Excavation activities associated with the construction of Building 771 and installation of Tanks T-9 and T-10 created localized depressions in the bedrock surface where free-phase carbon tetrachloride has accumulated and is contained. Data collected from boreholes installed near these tanks indicate the depth to bedrock ranges from 24 to 28 ft bgs (DOE 1997).

Groundwater data indicate that chlorinated solvents released to the subsurface soil have impacted the shallow groundwater beneath IHSS 700-118.1. Groundwater data collected from plume definition wells (P209289, P209389, P209489, and P219189) indicate that volatile organic compound (VOC) concentrations in groundwater in the vicinity of IHSS 700-118.1 exceed Tier II groundwater ALs (Figure 2). Exceedences include carbon tetrachloride, 1,1-dichloroethene, and trichloroethylene. None of the reportable data indicate that VOC concentrations exceed Tier I groundwater ALs.

Because elevated solvent concentrations in the soil and impacted groundwater have prompted an accelerated action, no additional characterization data will be collected.

### **2.2.3 IHSS 700-132 – Radioactive Site 700 Area, Site #4 (Tanks T-9 and T-10)**

Tanks T-9 and T-10 are located within Building 730 (the Building 776 Process Waste Pit) (Figure 2) The Tank T-9 site consists of two 22,500-gallon underground concrete tanks The tanks were installed in 1955 and originally received laundry waste from Building 778 In 1984, the tanks were taken out of service, cleaned, and converted to plenum deluge tanks

The Tank T-10 site consists of two 4,500-gallon concrete underground tanks The tanks were installed in 1955 and received waste streams from Building 776 (Production Support) and Building 778 (Laundry) The tanks were abandoned and taken out of service in 1982, however, records do not indicate that the tanks were cleaned or converted

In 1996, the contents of the two Tank T-10 tanks were removed, and the tanks cleaned and foamed with polyurethane as part of an accelerated action (DOE 1996) Approximately 75 gallons of dry sediment were removed from the eastern tank, no liquid was present Approximately 1,100 gallons of liquid and 25 gallons of sludge were removed from the western tank Historical data indicate carbon tetrachloride, methylene chloride, and chloroform were detected at concentrations greater than their WRW ALs in soil samples collected in and around IHSS 700-118 1 (Figure 3)

### **2.2.4 IHSS 000-121 – OPWL Pipe P-30**

A portion of Pipe P-30 is located approximately 3 ft below the concrete slab floor of Building 777 (Figure 2) As specified in RFCA Attachment 14, all OPWLs located within 3 ft of ground surface will removed

## **2.3 RFCA Subsurface Soil Risk Screen**

A RFCA SSRS is performed when nonradionuclides and uranium are present in soil below 6 inches from the ground surface, when americium-241 and plutonium-239/240 are present below 3 ft from the ground surface, and when soil exists beneath below grade structures Current site conditions are evaluated to determine whether remediation is required by the SSRS The SSRS will be conducted again after the accelerated action and related confirmation sampling tasks are completed The accelerated actions conducted, sampling results, and a revised SSRS will be documented in the IHSS Group 700-3 Closeout Report

The SSRS is presented below

### **Screen 1 – Are COC concentrations below Table 3 WRW soil ALs?**

No Available analytical data indicate that radionuclide activities and VOC concentrations are greater than WRW ALs at UBC 776 and IHSS 700-118 1, respectively

### **Screen 2 – Is there a potential for subsurface soil to become surface soil (landslide and erosion areas identified on Figure 1)?**

No IHSS Group 700-3 is not located in an area prone to landslides and high erosion, as identified on Attachment 5, Figure 1 of RFCA (DOE et al 2003)

**Screen 3 – Does subsurface soil radiological contamination exceed criteria in Section 5.3 and Attachment 14?**

Yes Current characterization data indicate that radionuclides exceed their ALs in the UBC 776 pipe chase beneath Room 158, as defined in Section 5.3 of RFCA (DOE et al 2003)

**Screen 4 – Is there an environmental pathway and sufficient quantity of COCs that would cause an exceedance of the surface water standards?**

Yes, contaminant migration via erosion and groundwater are the two possible pathways whereby surface water could become contaminated from IHSS Group 700-3 soil or structures. Runoff from IHSS Group 700-3 flows through gauging station GS49 (Figure 2), which is a Performance Monitoring location in support of D&D activities for Buildings 776/777 (DOE 2002a). The nearest downgradient RFCA surface water Point of Evaluation (POE) is SW093 (DOE 2002a). One observation of plutonium-239/240 (0.23 picocuries per liter [pCi/L]), measured in 2003, slightly exceeded the surface water AL of 0.15 pCi/L at SW093. However, SW093 receives water from a large part of the IA, and surface water quality at this location may not be attributable to any single upgradient IHSS Group. In addition, no surface water AL exceedances were observed in 2003 at GS49, the Performance Monitoring location for the Building 776/777 complex. The potential for the IHSS Group to cause exceedances of surface water ALs will be re-evaluated based on the final characterization data and documented in the IHSS Group 700-3 Closeout Report.

Groundwater associated with IHSS Group 700-3 is contaminated with chlorinated solvents (Section 2.5.3). However, surface water data do not indicate VOC contamination.

## **2.4 Remediation Plan**

The ER RSOP Notification remediation plan for IHSS Group 700-3 includes the following objectives:

- From the pipe chase located under UBC 776 Room 158, remove soil with contaminant concentrations greater than RFCA WRW ALs and associated materials. The radionuclide-contaminated soil will be removed below the base of the pipe chase in accordance with RFCA Attachment 14 (DOE et al 2003). If radionuclide activities are greater than 3 nCi/g in soil located 3 and 6 ft bgs, characterize and remediate in accordance with RFCA Attachment 14 (DOE et al 2003). If plutonium-239/240 or americium-241 is present in soil below 6 ft bgs, at activities greater than the RFCA WRW AL but less than 3 nCi/g, conduct an SSRS.
- Because OPWL Pipe P-30 is located within 3 ft of the surface, remove the piping, valve pits, and associated soil with contaminant concentrations greater than RFCA WRW ALs in accordance with RFCA Attachment 14. Remaining OPWL portions will either be grouted or foamed in place. Any water encountered within the lines will be managed in accordance with the ER RSOP. Endpoint locations and depths will be surveyed and documented in the IHSS Group 700-3 Closeout Report.

- Remove Building 730 along with Tanks T-9 and T-10 in IHSS 132. Because of their proximity to IHSS 118 1, it is anticipated that removal of Tanks T-9 and T-10 will result in one large excavation that will include IHSS 118 1.
- Remove free phase chlorinated solvent associated with IHSS 118 1 from the Tanks T-9 and T-10 excavation. It is anticipated that all free product will be removed. If conditions allow, remove contaminated soil associated with IHSSs 118 1 and 132, until contaminant concentrations are below WRW ALs. If sufficient soil cannot be removed to meet WRW ALs, the consultative process will be used to refine remediation goals.
- When removal actions at IHSSs 118 1 and 132 are complete, apply Hydrogen Release Compound® (HRC®) or a similar amendment to the excavation based on site-specific conditions during backfilling.
- Groundwater actions outside of IHSS 118 1 will be determined in the Groundwater Interim Measure/Interim Remedial Action (IM/IRA).
- Remove all foundation, sanitary, and storm drains to within 3 ft of the surface.
- Remove soil containing contaminant concentrations greater than the WRW ALs or as indicated by the SSRS.
- Collect confirmation samples in accordance with the IA Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001) in the remediation areas.

The accelerated actions conducted, sampling results, and a revised SSRS will be provided in the IHSS Group 700-3 Closeout Report. It is anticipated that after remediation, concentrations of radionuclides and metals will be less than RFCA ALs.

## **2.5 Stewardship Evaluation**

Because the full extent of excavation and remediation is not known at this time, an additional stewardship evaluation will be conducted during remediation using the consultative process and documented in the IHSS Group 700-3 Closeout Report. A new map of residual contamination will be generated after remediation. The following sections present the stewardship evaluation.

### **2.5.1 Proximity to Other Contaminant Sources**

As shown on Figure 2, IHSS Group 700-3 is located in the RFETS IA and close to other contaminant sources, such as UBCs 707, 771, and 774, and IHSSs 700-162, 700-172, 700-139 2, 700-137, and 700-149 2.

### **2.5.2 Surface Water Protection**

Surface water protection includes the following considerations:

**Is there a pathway to surface water from potential erosion to streams or drainages?**

Yes. Soil contaminants from IHSS Group 700-3 could migrate to surface water. Runoff from this area is captured by the drainage ditch west of the Building 776/777 complex, which eventually flows into Walnut Creek.

**Do characterization data indicate there are contaminants in surface soil?**

Yes Available characterization data indicate that radionuclide activities and chemical concentrations are greater than WRW ALs Additional characterization of IHSS Group 700-3 is ongoing Soil with contaminant activities/concentrations will be removed, and confirmation samples will be collected to ensure that residual activities and concentrations are less than applicable ALs

**Do monitoring results from POEs or Points of Compliance (POCs) indicate there are surface water impacts from the area under consideration?**

No Only one exceedance (plutonium-239/240 in 2003) has been observed in water analyzed from the nearest POE (SW093), which is located approximately 0.25 miles east of UBC 776 Even if more exceedances were observed in the nearest POE, they could not be attributed only to IHSS Group 700-3 because the monitoring station receives surface water from a large part of the IA (multiple IHSS groups) In addition, no exceedances above surface water ALs have been observed in surface water data collected from another nearby monitoring station, gauging station GS49 a Performance Monitoring location for evaluating D&D activities for Building 776/777

**Is the IHSS Group in an area with high erosion potential?**

No IHSS Group 700-3 is not located in an area subject to erosion in accordance with Figure 1 of RFCA Attachment 5 (DOE et al 2003)

### **2.5.3 Monitoring**

Monitoring includes the following considerations

**Do monitoring results from POEs or POCs indicate there are groundwater impacts from the area under consideration?**

Several RFCA groundwater monitoring wells are located near IHSS Group 700-3 (Figure 2) The majority of these wells (00700, 18199, 18399, 18499, 18799, and 60299) contain chlorinated solvents greater than the RFCA groundwater Tier II ALs The source of groundwater contamination is probably from the releases of carbon tetrachloride at IHSSs 700-118 1 and 700-118 2, located approximately 70 ft north of the Building 776/777 complex

The groundwater contamination at IHSS Group 700-3 is considered part of the IA Plume The Site VOCs Composite & Nitrate Plumes Map (DOE 2002b) indicates that the VOC plume underlies IHSS Group 700-3 This plume is much larger than IHSS Group 700-3 and probably is attributable to multiple sources within the IA, including perhaps the carbon tetrachloride releases at IHSS 700-118 1 and possibly IHSS 700-118 2 Further groundwater evaluation will be conducted as part of the groundwater plume remedial decision (the Interim Measure /Interim Remedial Action) and future sitewide evaluation

**Can the impact be traced to a specific IHSS Group?**

The carbon tetrachloride plume appears to originate from releases at IHSS 700-118 1

**Are additional monitoring stations needed?**

No The existing monitoring network is adequate for detecting potential contaminant releases from remedial activities. However, the need for and placement of monitoring stations will be reevaluated in the Long-Term Stewardship Plan

**Can existing monitoring locations be deleted if additional remediation is conducted?**

Not applicable at this time The need for and placement of monitoring stations will be reevaluated in the Long-Term Stewardship Plan

**2.5.4 Stewardship Actions and Recommendations**

The current stewardship actions and recommendations for IHSS Group 700-3 are as follows

- Use Best Management Practices (BMPs) to reduce erosion into surface water drainage,
- Implement near-term institutional controls until final closure and stewardship decisions are implemented, including the following
  - Restrict access and control soil excavations through the Site Soil Disturbance Permit process, and
- Implement long-term stewardship actions, including the following
  - Prohibitions on construction of buildings in the IA,
  - Restrictions on excavations or other soil disturbance, and
  - Prohibitions on groundwater pumping in the area of IHSS Group 700-3

These recommendations may change based on in-process remediation activities and other future RFETS remediation decisions

**2.6 Accelerated Action Remediation Goals**

ER RSOP remedial action objectives (RAOs) include the following

- Provide a remedy consistent with the RFETS goal of protection of human health and the environment,
- Provide a remedy that minimizes the need for long-term maintenance and institutional or engineering controls, and
- Minimize the spread of contaminants during implementation of accelerated actions

**2.7 Treatment**

HRC® will be used in the subsurface at IHSSs 118 1 and 132 HRC® is a proprietary, environmentally safe, food-quality polylactate ester formulated for slow release of lactic acid upon hydration HRC® stimulates rapid degradation of chlorinated VOCs found in groundwater and soil by making low concentrations of hydrogen available to the resident microbes for dechlorination HRC® has been used at other RFETS sites to enhance VOC degradation

**2.8 Project-Specific Monitoring**

High-volume air samplers may be used at the remediation area consistent with work controls to determine airborne radioactivity concentrations

## **2.9 Resource Conservation and Recovery Act (RCRA) Units and Intended Waste Disposition**

Not applicable

## **2.10 Administrative Record Documents**

DOE, 1992, Historical Release Report for the Rocky Flats Plant, Golden, Colorado, June

DOE, 1996, Completion Report for the Underground Storage Tanks Source Removal Project, Rocky Flats Environmental Technology Site, Golden, Colorado, September 23

DOE, 1997, Sampling and Analysis Plan for the Pre-Remedial Investigation of IHSS 118 1, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2001, Final Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2002a, Rocky Flats Environmental Technology Site Quarterly Environmental Monitoring Report, October, November, and December

DOE, 2002b, Second Quarter RFCA Groundwater Monitoring Report, Rocky Flats Environmental Technology Site, Golden, Colorado, November

DOE, 2003, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation Modification 1, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, CDPHE, and EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U S Department of Energy, Colorado Department of Public Health and Environment, and U S Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June

## **2.11 Projected Schedule**

The projected schedule for remediation of IHSS Group 700-3 is the fourth quarter of Fiscal Year 2004

## **3.0 PUBLIC PARTICIPATION**

ER RSOP Notification #04-04 activities will be discussed at the July 2004 ER/D&D Status meeting. A portable document format (PDF) version of this Notification has been provided to the local governments. This Notification is available at the Rocky Flats Reading Rooms and on the Environmental Data Dynamic Information Exchange (EDDIE) Website at [www.rfets.gov](http://www.rfets.gov)

## **4.0 REFERENCES**

DOE, 1992, Historical Release Report for the Rocky Flats Plant, Golden, Colorado, June

DOE, 1996, Completion Report for the Underground Storage Tanks Source Removal Project, Rocky Flats Environmental Technology Site, Golden, Colorado, September 23

DOE, 1997, Sampling and Analysis Plan for the Pre-Remedial Investigation of IHSS 118 1, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2001, Final Industrial Area Sampling and Analysis Plan, Rocky Flats  
Environmental Technology Site, Golden, Colorado, June

DOE, 2002a, Rocky Flats Environmental Technology Site Quarterly Environmental  
Monitoring Report, October, November, and December

DOE, 2002b, Second Quarter RFCA Groundwater Monitoring Report, Rocky Flats  
Environmental Technology Site, Golden, Colorado, November








DOE, 2003, Environmental Restoration RFCA Standard Operating Protocol for Routine  
Soil Remediation Modification 1, Rocky Flats Environmental Technology Site, Golden,  
Colorado, September

DOE, CDPHE, and EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement  
Attachment, U S Department of Energy, Colorado Department of Public Health and  
Environment, and U S Environmental Protection Agency, Rocky Flats Environmental  
Technology Site, Golden, Colorado, June



**Figure 1**  
**IHSS Group 700-3**  
**Location Map**

**KEY**

-  IHSS
-  Fence
-  Stream ditch or drainage
-  Paved road
-  Dirt road
-  Structure
-  Pond



500 0 500 Feet

Scale 1

State Plane Coordinate Projection  
Colorado Central Zone  
Datum NAD 27

U S Department of Energy  
Rocky Flats Environmental Technology Site

Prepared by

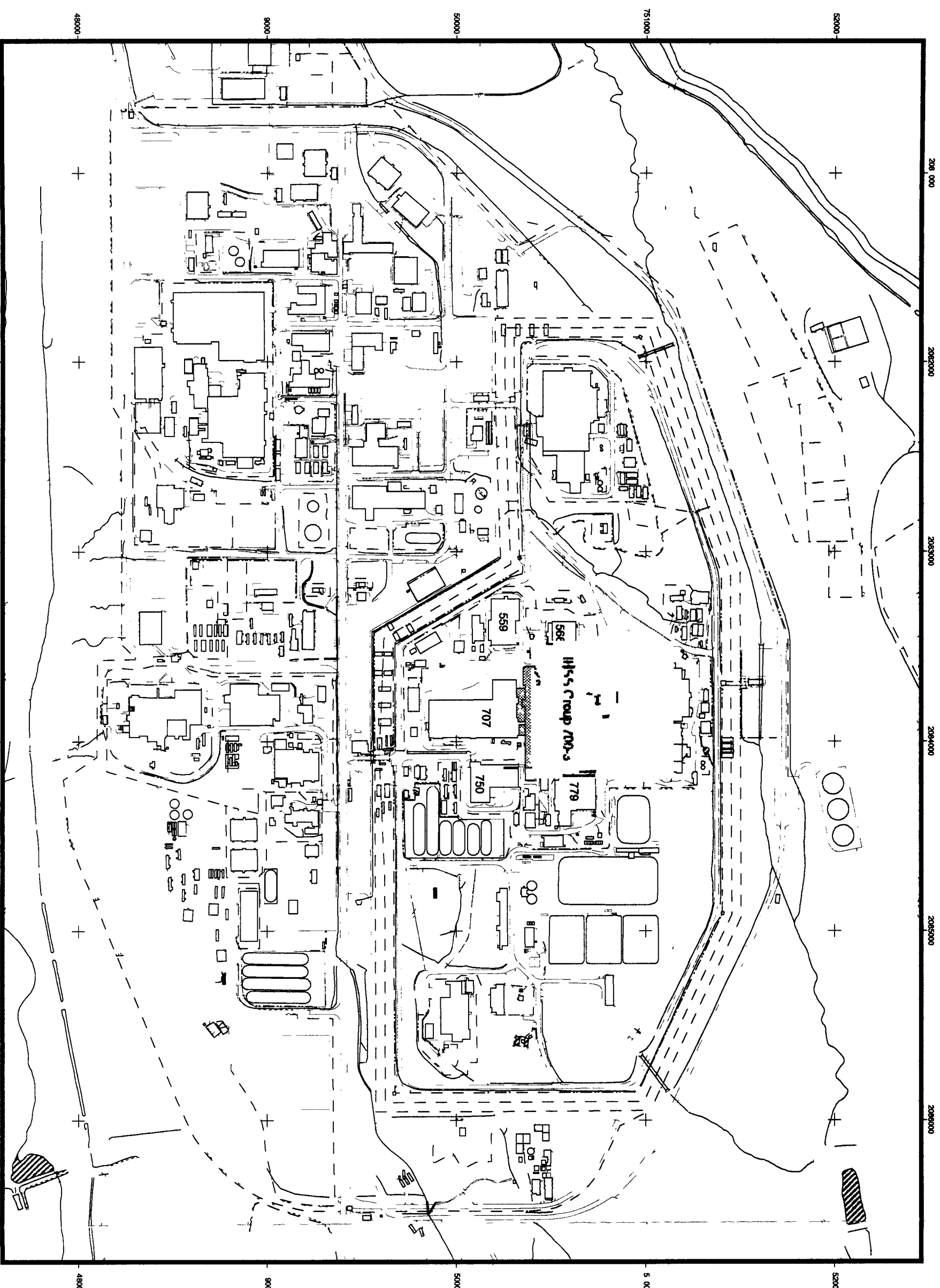


Prepared for

Date J ly 2004

**KAISER-HILL**  
COMPANY

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**Figure 2**  
**IHSS Group 700-3**  
**Proposed Remediation Areas**

**KEY**

- Monitoring Well Locations**
- Greater than Tier II AL
  - Less than Tier II AL
- OPWL**
- Between 3 and 4 feet
  - Does not exist
  - OPWL
  - Removed
- Proposed remediation area
- IHSS
  - PAC
  - UBC
  - Pord
  - Tank
- Stream ditch or drainage
- Paved road
  - Fence
  - Dirt road
- Structure**
- Demolished
  - Standing



Scale 1:1,000  
500 0 500 Feet

State Plane Coordinate Projection  
Colorado Central Zone  
Datum NAD 27

U.S. Department of Energy  
Rocky Flats Environmental Technology Site

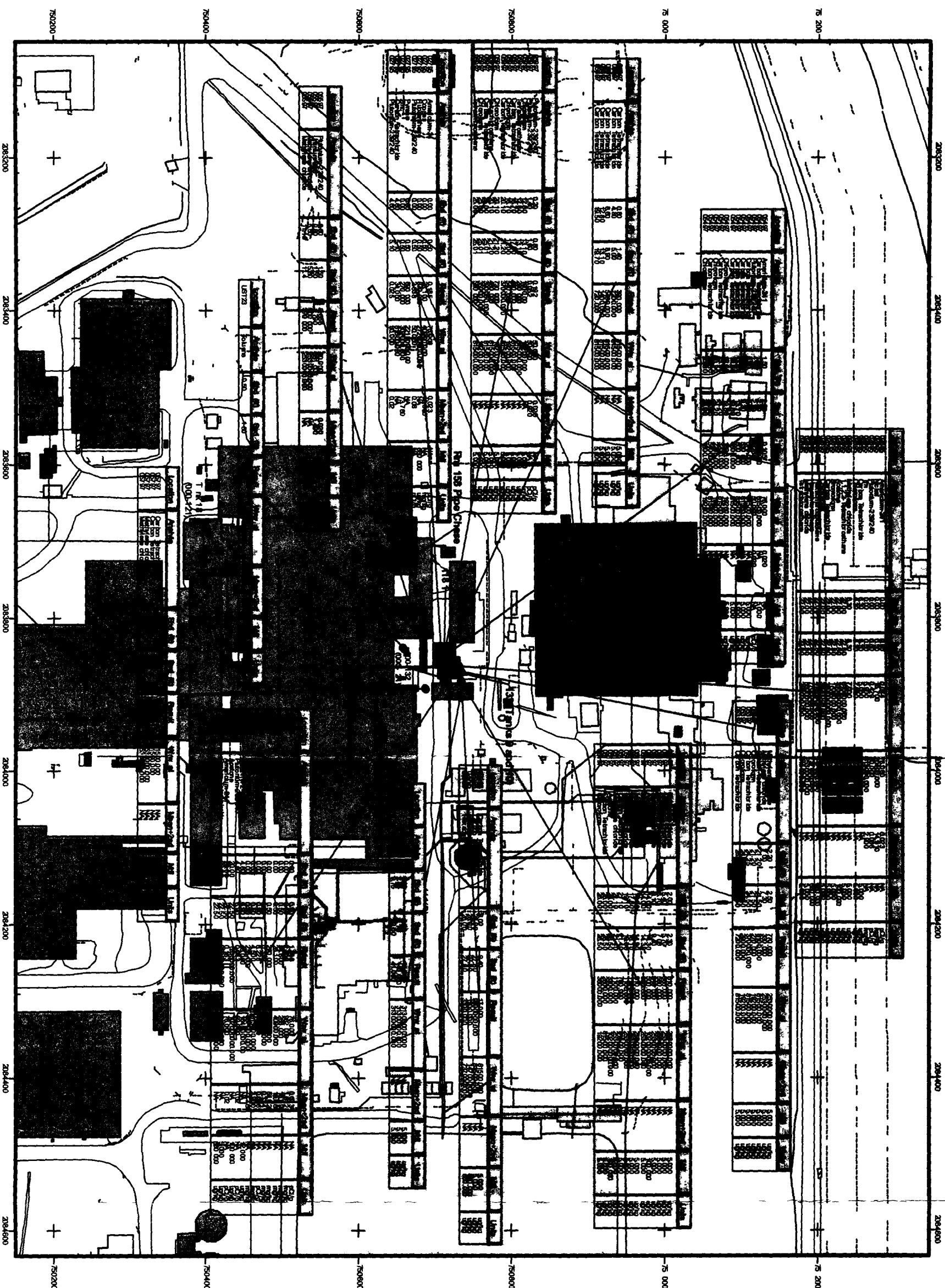
Prepared by

Prepared for

Date July 2004



**Figure 3**  
**Pre-Accelerated Action Sampling**  
**Results Greater Than Background**  
**Means Plus Two Standard Deviations**  
**or MDLs**



**KEY**

- Sampling Location**
- Greater than WRW AL
  - Greater than background or MDL
  - Less than background
- OPWL**
- Between 3 and 4 feet
  - Does not exist
  - OPWL
  - Removed
- Proposed remediation area
  - IHSS
  - PAC
  - UBC
  - Pond
  - Tank
  - Stream ditch or drainage
  - Paved road
  - Fence
  - Dirt road
- Structure**
- Demolished
  - Standing

**DRAFT DATA**



500 0 500 Feet

Scale 1:1600  
State Plane Coordinate Projection  
Colorado Central Zone  
Datum NAD 27

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Figure 4

UBC 776/777  
Characterization Data Greater Than  
Background or RLs

KEY

- Greater than WRW AL
- Greater than background or RL
- Less than background

OPWL (000-121)

Paved road

Storm drain

Footing drain

700-3 UBC

IHSS

Tank

Demolished building

Standing building

Wildlife Refuge Worker

Action level

Soil begin depth

Soil end depth

Reporting limit

feet

Background

Background mean plus two  
standard deviations

Note: Uranium, Total - Estimated From HPGE

DRAFT DATA



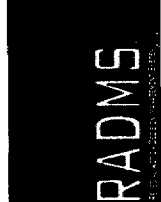
Scale = 1:1,700



State Plane Coordinate Projection  
Colorado Central Zone  
Datum: NAD 27

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Prepared for:



Date: July 2004

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